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(54) Title: HYDROCARBON SYNTHESIS

- (57) Abstract: A process for synthesising hydrocarbons includes feeding a gaseous feedstock comprising hydrogen, carbon monoxide and carbon dioxide, into a dimethyl ether (DME) synthesis stage, and in the DME synthesis stage, converting a portion of the gaseous feedstock into a DME product and gaseous products. The DME product is separated from unreacted gaseous reactants and the gaseous products to obtain a tail gas comprising hydrogen and carbon monoxide. The tail gas is fed into a Fischer-Tropsch hydrocarbon synthesis stage, and the hydrogen, carbon monoxide and carbon dioxide are allowed at least partially to react catalytically in the Fischer-Tropsch hydrocarbon synthesis stage to form hydrocarbons.